

ABSTRACT OF THE DISCLOSURE

*Compact, high-power, near-diffraction-limited sources of radiation in the near infrared spectral region are provided by a new class of power amplifiers that can be pumped by conventional high-power, multimode, relatively-broadband 1-D and 2-D laser diode arrays, where the pumped amplifier gain medium is an atomic vapor of one of the alkali elements (Li, Na, K, Rb, Cs), buffered with a mixture of rare-gas (He, Ar, Kr, Ne, or Xe) and selected molecular gases. Given the central role of the alkali atomic vapor as the entity providing amplifier gain, this new type of amplifier is herein designated as the diode-pumped alkali amplifier (DPAA).*